

ANCIENT EGYPT

1924.

JUNE. PART II.

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YEARLY, 7s. POST FREE.

QUARTERLY PART, 2s.

BRITISH SCHOOL OF ARCHAEOLOGY IN EGYPT.
MACMILLAN AND CO., LONDON AND NEW YORK;
AND
EGYPTIAN RESEARCH ACCOUNT,
CHICAGO.

ANCIENT EGYPT. Net price of each number from booksellers is 2s.

Subscriptions for the four quarterly parts, prepaid, post free, 7s., are received by Hon. Sec. "Ancient Egypt" (H. Petrie), University College, Gower Street, London, W.C. 1.

Books for review, papers offered for insertion, or news, should be addressed:—

Editor of "Ancient Egypt,"

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Subscriptions received in the United States by:—

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ANCIENT EGYPT.

THE BRITISH SCHOOL IN EGYPT.

DURING the past winter a dozen workers were occupied in the excavations of the British School, for many different activities are required—the direction of diggers, the care for the objects found, the keeping of registers, the drawing and photographing, camp management, and very essentially the packing. The results this past season have covered many periods, from the oldest prehistoric to the Coptic.

The earliest human remains found last year have been increased by finding a second deposit of bones, which contained part of another large skull, half of a jaw and part of the front of another jaw, an atlas vertebra, a patella, and several pieces of shafts of long bones. Many bones of animals, beside the great majority of hippopotami, have been recovered, and the identification of these will be of importance for indicating the age of the deposits. The condition of the gravel deposit has been already described (p. 16); but a further question arises as to how these igneous gravels can have been laid down. It seems incredible that they can have been washed down in the general stream of the Nile, as the bed 80 feet thick implies a long continuance of the conditions, and yet there are no limestone pebbles or mud in the beds. If derived direct from the eastern mountains the beds must have been laid down before the long valley of the Wady Qeneh was cut back in the plateau, behind the bay of Qau. There is nothing impossible in this, as the valley mouths, along the Nile cliffs, must have been cut out long before the valleys were cut far back in the plateau. But if this history of the gravels is accepted, it will throw back their age to before the erosion of the long valleys. Such seems reasonable in view of the deepness of limestone breccia and hard mud which overlaid the igneous gravels. The field of the problem now lies in desert exploration along the foot of the mountains, for the original sources of the bone deposits, and the history of the erosion valley which now lies between that and the Nile. The application of these bones of the sacred hippopotamus, as relics, has been shown not only by about a bucketful being found in each of the larger graves, but also by packets of bones, wrapped in cloth and tied up, for deposit in the tombs.

Coming to the age of the continuous civilisation, our former results regarding the successive stages have been consolidated by working through a stratified deposit of a settlement. The order of the pottery found in removing the layers one after another proved to be the same as that previously deduced from the deposits in graves. The sequence dating is thus verified. Moreover, the ripple pottery has been found to belong to the age of the first prehistoric civilisation, or even before that.

In past years, occasional pieces of the ripple pottery have been found, but no large group. It seems to have been made by spreading the clay uniformly by means of a notched bone comb, which left the surface wavy or rippled all over. Last year some bowls were found, of fine thin ware with a polished black face, due to deoxidising in a smother kiln. With these were a globular vase of buff pottery with four small handles, a long narrow palette, and a flint dagger, all of types hitherto unknown. This last season much more ripple pottery was found. With it were flint arrow heads deeply notched at the base, hitherto not found in graves, but known in the surface groups of the Fayum. More of the long rectangular palettes with concave ends appeared, with ornament of three little holes in each corner. There was also a small oval vase with cylindrical

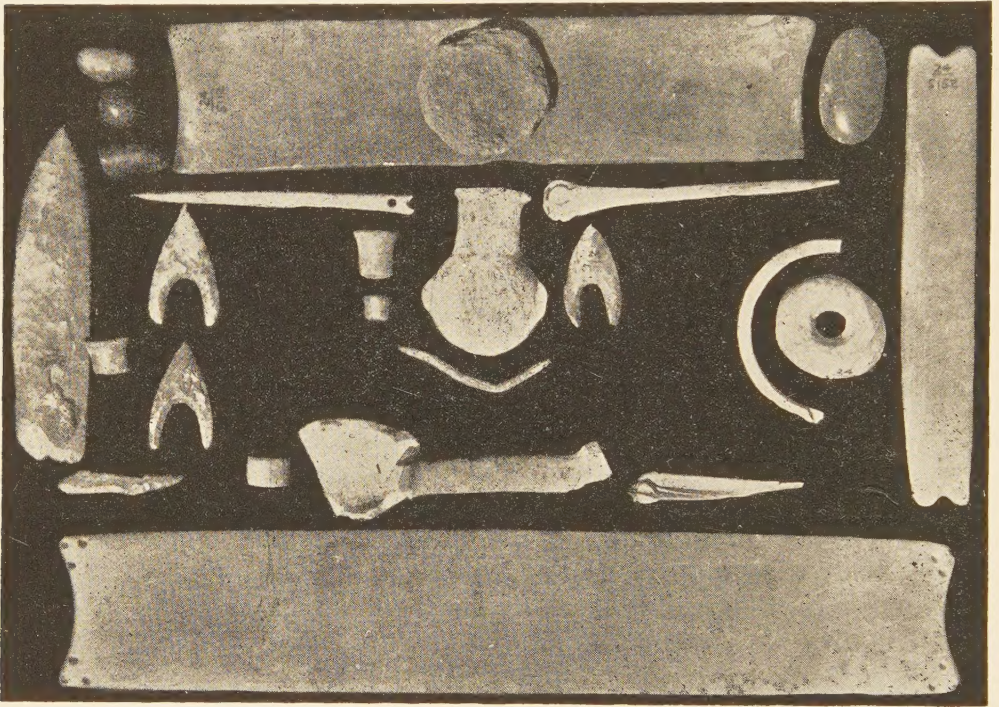


FIG. 1.—SLATE PALETTES, FLINT ARROWHEADS, IVORY VASE.
BADARIAN CIVILISATION OF EGYPT.

1 : 3

neck, a form quite new to us. Rudely chipped ovoid flints were also found. Most important was a female figure carved in ivory, differing from any of the prehistoric ivories hitherto known. It seems plain that we have here remains of a culture quite apart from the usual prehistoric Egyptian, yet of much the same level, using the same materials, but in a different way. The ivory figure shows that it is not that of the steatopygous people. The arrow heads and other flint work point to connection with the makers of the Fayum desert flints, which are of Solutrean style, and accord with the absence of the long flakes of Magdalenian style. As the Solutrean workers are supposed to have come from central Asia it may be that region which was the source of this culture, and similar flints are found on the desert between Egypt and Palestine. If so, we are at last in touch with the age before s.d. 30, and have an earlier civilisation here than any yet

known in Egypt. It need not have been contemporary with the European Solutrean period. Provisionally we may name this culture from the district Badari around Qau, and term it Badarian.

Several settlements of the usual prehistoric Egyptian remains were worked over, near Hamamieh, which provide for the first time the domestic pottery of that age. The large stone jars which were used in the houses are unknown in



FIG. 2. IVORY FIGURE OF BADARIAN CULTURE.

the graves. The spurs of the desert below the high cliffs were much occupied at this period, probably owing to the unregulated state of the Nile, which inundated the whole plain. In the historic period, when dyking had provided dry sites for dwelling, the Egyptian preferred to live near his cultivation, and the desert was occupied by cemeteries, the graves being cut through the ancient settlements. A small saucer-lamp shows for the first time the method of prehistoric lighting.

There were important persons in this district during the Old Kingdom, as a group of alabaster vases was dated by one piece with the name of Hetep-sekhemui of the IInd dynasty, and other vases are of the VIth dyansty, with the name of Pepy II, and of his mother, Queen Pepy-onkh-nes. The latter vase dates a group with a collar-necked alabaster made in one with a stand, an ivory swastika button, a spoon, and a carved shell with figures of a monkey, a dog's head, and, affixed to it, a ram's head. These were found a few miles north of Qau, while a few miles south a similar large cemetery was further searched, which contained many burials of the IVth to Xth dynasties, with alabaster vases, seals, buttons, amulets and pottery. These, with the other examples collected last year, will serve to give a continuous chain of the varieties of work during the Old Kingdom. A series of changes is seen in the globular pots with a spout, which was gradually reduced to a solid bracket on the neck.

The graves of the period of the great Uahka tombs are indicated by the return to the scarab, in place of the Syrian button of the VIIth and VIIIth dynasties. From Sedment we know that the use of the button badge did not last into the IXth and Xth dynasties. The great rock tombs were all thoroughly cleared, and the painted walls of the great tomb copied (see p. 17). The pieces of massive stone sarcophagi were found of princes Uahka A, Uahka B, and Sebekhetep: many fragments of the statues were recovered, showing a style different from the Egyptian work, and parts of the strange canopic jars of pottery with reliefs of arms holding the *onkh* and *zom*. A complete jar of this type, with the name Uahka, was purchased in Cairo five years ago, and doubtless came from these tombs. The historical question of the period of the great tombs, and the relation of the princes to the XIIth dynasty, is dealt with in the second part of this paper. Of the XIIth dynasty there was a different cemetery, marked by the characteristic form of the kohl pots.

Many tombs were found of the XVIth or XVIIth dynasties, and a large quantity of pottery which shows the prelude to the styles of the XVIIIth. Probably of this age was a great tomb made in a cavern, with a brick well of access built to it, when the cavern was closed up. A large brick pylon stood below it on the hill side, leading to chambers which had been lined with fine sculpture. Fragments of this gave the name of a daughter as Nub-khos, called after a queen of the XIIIth dynasty. There was but a small proportion of burials of the XVIIIth dynasty; a large enterprise of quarrying was, however, undertaken here, and an immense sloping causeway of brick and earth was built by Amenhetep III, as shown by the stamp on the bricks. Other causeways from quarries are seen on the spurs of the desert.

The quarries of this region are widespread and of large extent, but unfortunately do not contain inscriptions, except of Roman age. There are two entirely different modes of working; the old way of scaling the face with picked blows lasted till after the XVIIIth dynasty. The cutting during Roman times was by long strokes of a metal pick. Many of the older tombs have been extended, or refaced to some amount, by the long-stroke work. A remarkable feature of the valley above the Uahka hill is the subsidence of the upper strata to a considerable tilt. At first it seemed that there must be a collapsed hollow, but yet the lower strata were solid continuous limestone. It then appeared that in various places there had been a great amount of solution of limestone along weaker strata. This seepage had dissolved away the more crumbling beds, so as to let down the upper parts, by perhaps a quarter of the height of the supporting strata. This

cause of distortion seems not to be generally recognised, but may account for many earth movements.

There was much occupation of this district in Roman and Coptic times. The hill of Qau is covered with shallow graves cut in the rock, having a ledge along the sides to hold the roof slabs. The crematorium shows that there was a Roman settlement or garrison here, apart from the Egyptians. A chamber to one side of the great Uahka tomb had been fitted up as a crematory; on two plastered platforms in it still lay burnt bones, with objects that had been deposited with the bodies. Outside the chamber, four burning places had been made, each blackened by use. These were for full-sized men, and lesser sizes down to infants: the limitation being due to the scarcity of fuel for the burning. On one of these

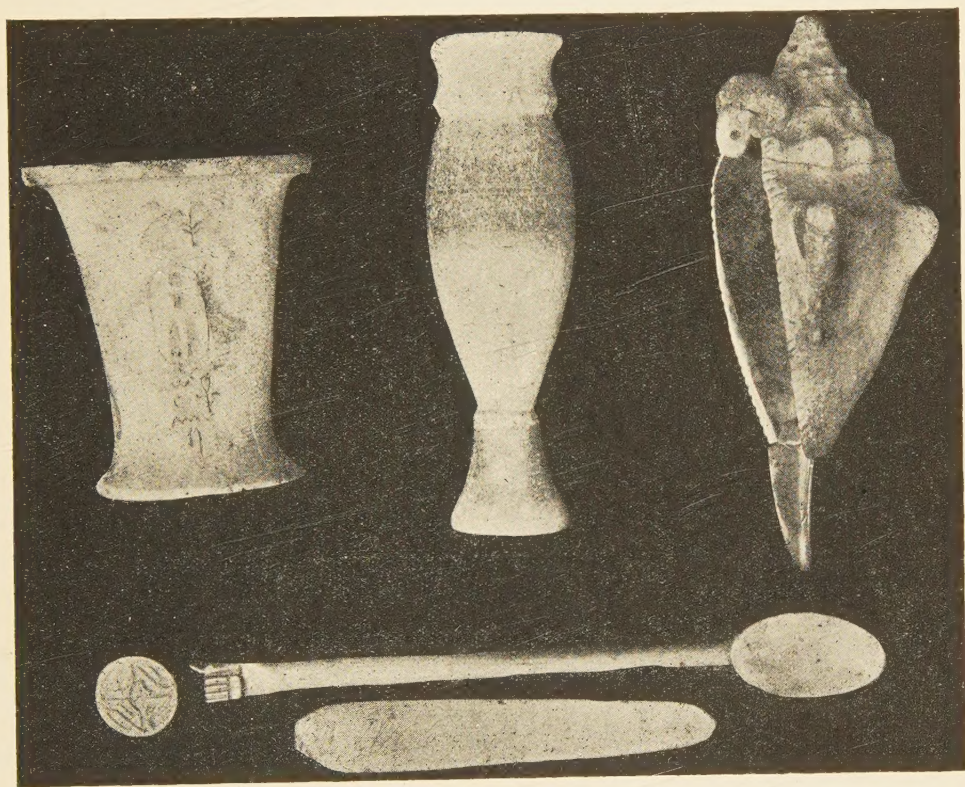


FIG. 3. VASE OF QUEEN PEPEY-ONKH-NES; CARVED SHELL; IVORY BUTTON AND SPOON.
VITH DYNASTY. 1:2.

places lay part of a mummy burnt, showing a curious mixture of rites. Besides the rock graves there were a large number of gravel graves, overlying the earlier cemetery south of Qau. From these came many bead necklaces and ornaments, down to the 7th century. Some glass beakers and dishes and a new form of wine glass were also left here. Tombstones are found of the 3rd century and onward, mostly Coptic of the 5th to 7th century. These show the local dialect, for comparison with the forms in the Coptic gospel found last year.

What may be the future of excavation is very uncertain. The fair terms of half shares to the finder, introduced by Sir Gaston Maspero, has benefited Egypt as well as Egyptology by encouraging controlled excavation, though it would have had much better results if full publication had been a compulsory condition. The new conditions in Palestine, Syria and Mesopotamia seek to grasp more from

the finder, and will therefore produce less activity to benefit the governments ; they are distinctly retrograde. Egypt now tends to follow suit and keep everything of importance. In countries which have not in themselves the knowledge or inclination for scientific discovery, this acquisitiveness is a positive loss, by restraining study abroad and by extra risk of the material at home. In every way the recent legislation is therefore injurious to knowledge and research. There is another factor in the diminishing returns from excavations, owing to sites being exhausted ; also the diminished interest owing to obscure parts of history being cleared up, so that discoveries of importance are the less likely. There is but little inducement to spend months of toil and thousands of pounds on merely clearing cemeteries which contain nothing new to us, and produce little of museum value. There is the further deterrent of the Nationalist fever, and the excitement caused by the Tutankhamen tomb. The notion of "treasure" will stir native opposition to work, which really entails spending much more in the country than any value which is removed. In every direction therefore we seem to have seen the halcyon period of discovery, and the last forty years will be looked back on as the great age of historical research in Egypt.

THE ORIGIN OF THE XIITH DYNASTY.

SOME years ago Prof. Golenischeff pointed out the resemblances of the statues of the XIIth dynasty—particularly of Amenemhat III—to the black sphinxes from Tanis (*Recueil* xv, 133). The type of the sphinxes was, however, far more rugged and massive than any of the kings of the XIIth ; so, though the resemblance could not be gainsaid, yet the sphinxes represented the ancestors of those kings rather than the kings directly. The race had been tamed, disciplined and mixed with sedate Egyptians before it produced the grand, firm, and civilised rulers of the Middle Kingdom.

There the matter rested until the late M. Daressy pointed out (*Annales du Service*, 1917) that the Tanis monuments were the miscellaneous plunder of Ramessu II, gathered from all over the country, to decorate his new capital. The local gods named were those of many different places. Then he capped that, by showing that the black sphinxes resembled, in work and size, a hard limestone sphinx of which a part was found at El Kab, suggesting that the black sphinxes had been brought down from that old capital. That they did not represent the Hyksos was clear, because those kings had roughly cut their names in the shoulders of the sphinxes ; so the sphinx was certainly before the XVth dynasty.

Next, M. Capart proposed that all this group of the sphinxes, the Hapi groups, and the Fayum and Esquiline busts belonged to the archaic art before the IVth dynasty. The objection to this was that it seemed impossible to place such work between the Khosekhem figures and the IVth dynasty statues. They belonged to a later style of work, that had passed beyond the archaic grandeur of those early figures. (*ANCIENT EGYPT*, 1916, 188.)

It had been remarked that of all periods before the Hyksos the longest clear space for a new style to come in was between the VIIth and Xth dynasties. The close resemblance of the sphinx type to that of the Gallas on the border of Abyssinia strongly points to a Galla invasion of the south, during the Syrian

occupation of the VIIth and VIIIth dynasties in the north, and the IXth and Xth dynasties at Herakleopolis (ANCIENT EGYPT, 1920, 105). Thus the portraiture and style suggested that invaders from the south had occupied Upper Egypt and were the ancestors of the XIIth dynasty.

Three years ago the work at Sedment had further cleared the ground by proving that the use of button badges and geometric seals was peculiar to the Syrian invaders of the VIIth and VIIIth dynasties, as such objects were entirely unknown to the Libyans, who had come in through the Fayum and formed the IXth and Xth dynasties of Herakleopolis.

The position as it stood last year was, then, that we knew of a Syrian occupation in the north, of a Libyan occupation from the west in Middle Egypt, and of a presumption of a Galla intrusion at some part of this period, which could originate the XIIth dynasty.

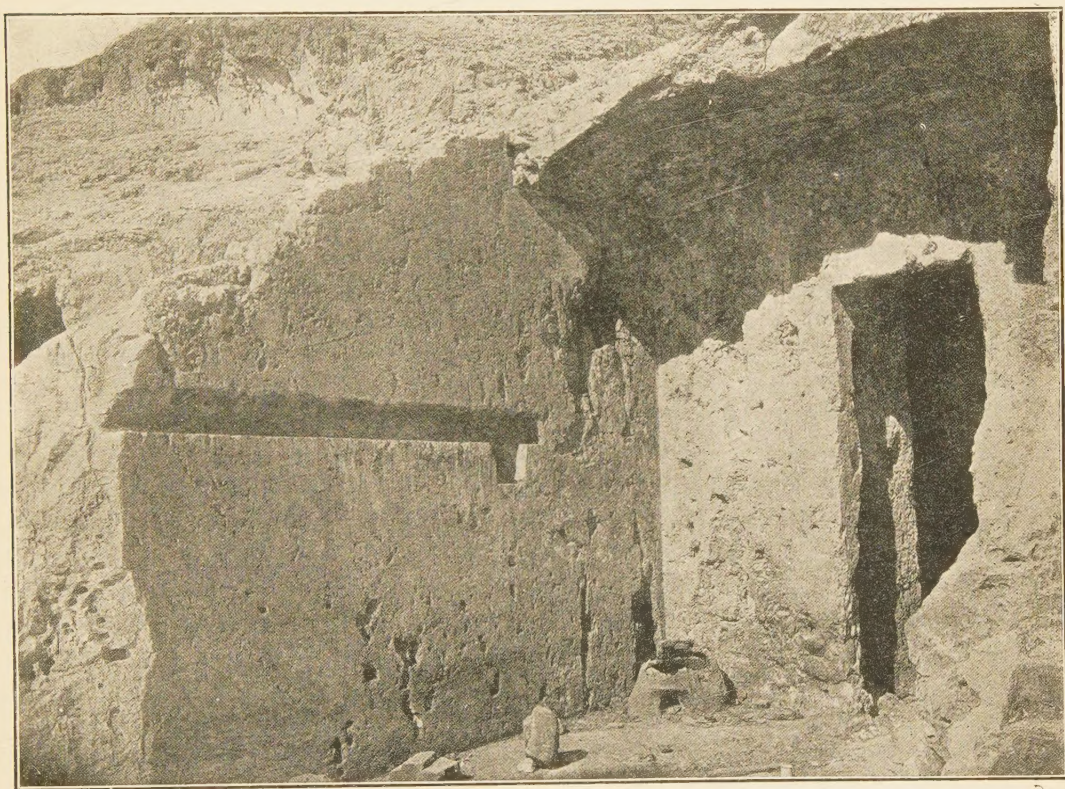


FIG. 4.—ROCK HALL OF PILLARS, WITH LEDGE FOR ROOF. TOMB OF UAHKA.

The examination of the tombs of the Uahka family at Qau, last winter, has further cleared up the movements in this dark period. The first step is to settle the date of those tombs, and for this a study of the names of different periods is essential. For the IVth to VIth dynasties there is the list of names in Miss Murray's work on "Names and Titles"; this supplies about 850 different names. For the XIIth dynasty I have collected about 550 different names, entirely from steles and tombs dated by kings' names. For the Qau period there are 26 steles known bearing the name Uahka, and on these 136 different names are recorded. Whether the position of these was before, or during, or after, the XIIth dynasty is the problem. Without entering on all the detail, which would form another

paper, the most decisive results can be summarised. First, the whole of the 550 different names on dated steles of the XIIth dynasty do not include a single contemporary Uahka name. Secondly, the Uahka steles do not include a single name compounded with Mentu, and only one with Amen; as such compounds are the commonest of all in the XIIth dynasty, and continue for long after that, such an omission shows that the Uahka period is before, and not after the XIIth dynasty. The one Amen name is paralleled by one Amen name in the IVth dynasty (L.D. ii, 27), and therefore cannot be fixed to the XIIth dynasty. Thirdly, a frequent type of name in the XIIth dynasty is with *să* or *săt*, son or daughter, prefixed to some god's name, or to some person or quality, and such type continued to the later times. Yet there are only two such names associated with Uahka, which may be paralleled by half a dozen instances in the Old Kingdom. It was one of the least usual types until the XIIth dynasty. Fourthly, there was continued toward the end of the XIIth dynasty a worship of Uahka, as there was a chief of his priests at that time. The evidence of names therefore shows that the Uahka groups were of a definite period apart from the XIIth dynasty, and ruling between that and the VIth dynasty.

A class of scarabs of small size, in hard stones, has the epithet *ka nefer uah* "May the good ka endure," allied to the Uahka name, and probably originating like that from the Uah-ka-ra name of Khety III. The personal names on these scarabs are partly like those of the Old Kingdom, Beba and Atay, and partly like the XIth dynasty, Mentu names and an Ameny. They are distinctly before, rather than after, the XIIth dynasty, by the names and by the style.

Where, then, did this Uahka family come from? For this we must turn to their works, the great tombs of Qau. The type of these tombs is different from any that went before, and was not continued in Egypt except in a much altered form. In the first place they are very closely parallel to the rock-temples of Nubia. The approach is through a hall with a colonnade of pillars along the sides, partly in the rock, partly built on. That leads to a great hall entirely in the rock. Beyond that is a cross hall, with three recesses for statues at the back, and a chamber opening off each end. None of this detail is found in Egyptian tombs or temples in the Old Kingdom, nor in those of the XIIth dynasty and later times. It remained a foreign type, the source of which is shown by the temples wrought in Nubia on a native pattern, though under the XIXth dynasty.

That there was a connection with the south at Qau is shown by the mode of excavating one of the great tombs. The two Uahka tombs are cut very carefully, the rock walls scrupulously flat, with scarcely a visible error, the corners well worked out, sharp and clean. But there is another tomb between these, having the same plan of the various chambers, yet entirely different in workmanship. The faces look as if worn by a torrent, wavy and rounded, due to breaking away weak parts of the rock and smoothing over the dislocations; the corners are all widely rounded, evidently pounded out with ball hammers of three to six inches diameter. The whole is manifestly the style of granite working by pounders instead of sharp picks, like the cutting out of the obelisks described lately by Capt. Engelbach. This implies that the princes were familiar with the granite working of Aswan, and that they could bring down a staff of trained men from there to cut out a great rock tomb. The south was evidently in their control.

We have then here a principate holding Upper Egypt about the IXth and Xth dynasties, and bringing in tombs of a Nubian type, otherwise unknown in Egypt.

Here another kind of evidence appears. From the skull measurements studied in the Eugenics Department at University College, entirely apart from any views of history, the conclusion is reached that "There is a close relationship between the Tigre skulls and middle dynastic Egyptian types." This accords with the Galla portrait pointing to a southern origin for the kings of the Middle Kingdom.

A marked difference between the Uahka tombs and those of other periods in Egypt is the rejection of the trend to the west and the cutting of all these tombs pointing to the north. In no place here is there any suggestion of attention to the west rather than to the east. There is only the north direction, substituted for the usual west.

The linking of these tombs to the XIIth dynasty is given by the son of Uahka being named Senusert, which was the family name of the XIIth dynasty. The other name Amenemhat was obviously adopted in honour of their domination at Thebes, but Senusert is a name that goes back to the IXth dynasty, as it occurs on a stele with that of a man named Merykara after Khety II; that royal family was so detested that no one would keep up such a name in later times. Thus this name Senusert is proved to be as early as the IXth dynasty, and to have been used by the Uahka family before we find it as the name of the XIIth dynasty kings.

The whole of this archaeological evidence is finally clenched by the express statement in a prophetic papyrus of the XIIth dynasty, "A king shall come from the south, whose name is Ameny, son of a Nubian woman." Thus the southern ancestry of the Ameny (= Amenemhat) dynasty was certainly recognised (J.E.A., 1914, p. 105).

The whole of these facts seem to shut us up to the following scheme of the history. At the close of the VIth dynasty the Syrians, who had been filtering in before, broke the Egyptian rule and took over the kingdom. In the south a king of the old style remained, Uaz-ka-ra, who held Nubia and Koptos. He was succeeded by invaders akin to the modern Gallas, who captured the school of black granite workers, and so continued Egyptian art with a new style of portraiture. These Gallas held the Thebaid, and when the Libyans came in through the Fayum and founded a capital at Herakleopolis, the southerners became subjects or allies of the Khety family. They retained, however, the rule of the Thebaid up to Aswan and constructed the great temple-tombs of Qau. The name Uahka was borrowed from that of Khety III, Uah-ka-ra, and became so celebrated that over thirty persons are recorded of that name. Khety II was on friendly terms with the southern princes; they took the family name from Khety III; and Khety IV when driven from Herakleopolis took refuge with Prince Khety of Asyut close to Qau. The Qau princes had the name Senusert in the family. They lasted through the Xth dynasty, while the Antef family cut them off from the south, but did not reach north of Ekhnim, until the Mentuheteps finally crushed the north and held the supremacy for 43 years. Meanwhile one of the Uahka family aspiring to hold Thebes took the name Amenemhat, his son having the family name of Senusert, which is found long before as a son of Uahka of Qau. On the succession of two brief reigns, at the end of the Antef and Mentuhetep family, Amenemhet occupied the throne, upset the last Theban in three years, and so the old Galla princes of Qau founded that line of great kings who kept to the last the features of their ancestry.

It is remarkable how renewed vitality has always come into Egypt from the south. The Ist dynasty appear to have moved up from Punt. The IIIrd dynasty, which led to the IVth, shows a strongly Ethiopian face in Sa-nekht (*Sinai*, fig. 48). The XIIth we can now trace to a Galla origin, which stamped its features. The XVIIIth was of Berber race, pale by marrying a Libyan princess. The XXVth was from distant Meroe. Each of the great stages of Egyptian history seems to owe its new energy to a southern conquest. Had we left Egypt alone lately, the Sudani might have repeated this revival. He may yet accomplish this.

FLINDERS PETRIE.

THE ANNUAL EXHIBITION AT UNIVERSITY COLLEGE WILL BE OPEN FROM
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ANCIENT CLEPSYDRAE.

THE Ancients made use of two kinds of Clepsydrae or Water Clocks, which may be distinguished conveniently as " Outflow Clocks " and " Inflow Clocks."

The former type appears to have originated in Egypt and consisted of a vessel shaped like a flower pot (Fig. 1) provided with one small aperture at the side near the bottom. The pot was filled with water, which *flowed out* gradually through the opening, and by noting the water level against a scale of markings on the inner surface, an estimate of the intervals of time was obtained.



FIG. 1.—ALABASTER CLEPSYDRA OF AMENHETEP III. KARNAK.

The other type came into use in later times and consisted of a pot of cylindrical shape, into which water was allowed to drip (Fig. 4) or which was placed in a larger vessel maintained full of water, which gradually *flowed into* the pot. The level of the water as it rose was indicated by the position of a float against a scale.¹

The oldest specimen of water clock in existence (Fig. 1) is of the Outflow type and dates from the time of the Pharaoh Amenhotep III (c. 1400 B.C.). It was

¹ Models of clocks (Figs. 1 and 4) may be seen in the South Kensington Museum.

found in 1904 at Karnak, broken in many pieces, and was reconstructed for the Cairo Museum. The vessel is of translucent alabaster and stands about 14 inches high. The outer surface was decorated with coloured stone and fayence inlay work, and various scenes, stars and constellations are depicted in three rows.

The lowest register is divided into six compartments showing the King with the twelve moon gods, two in each compartment. The aperture is situated between the first and sixth compartment. A study of the fragments of other clocks now scattered over the museums of Europe¹ leaves no room for doubt that over the aperture there was originally a seated figure of the dog-headed ape—sacred animal associated with Thoth, god of wisdom.²

In the middle register above the aperture are depicted the circumpolar stars, and the rest of the row is filled with representations of the deities of the days of the week.³ Opposite to the aperture is a large compartment extending over the middle and upper registers and in which the King is shown protected by the moon god Thoth and offering sacrifice to the sun god Harmachis.

The remainder of the upper register is occupied with representations of the planets and of the constellations through which the sun travels in the course of the year.

Similar designs appear on water clocks figured in the wall-paintings of the Ramesseum⁴ and at Medinet-Habu⁵: also on the ceiling decoration of the Ramesseum.

Vessels such as these were used to divide the night time into 12 parts—the "hours" of the night⁶—for the temple-watches. On one fragment⁷ the inscription runs:—

"Every figure is in its hour . . . to fix (?) the 'hours' of the night, if the decan stars⁸ are not visible,⁹ so that in this way the correct time (?) of the sacrifice will be observed."

The length of the "hour," of course, varied with the time of year, being shortest at the summer solstice and longest at the winter solstice.

An account of a clock of this pattern occurs in a tomb-inscription at Shekh Abd-el-Gurna of an official named Amenemhet, who lived under the XVIIIth dynasty Pharaohs, Aahmose I, Amenhotep I and Thutmose I. The record is sadly mutilated, but the following is a free translation of some parts which remain decipherable—with the addition (in brackets) of some conjectural phrases.¹⁰

¹ For complete list see *Proc. Soc. Bibl. Arch.*, June, 1901, pp. 271–274, or Borchardt, *Die Gesch. der Zeitmessung u. Uhren*, Vol. i, p. 64, hereinafter referred to as *G.Z.U.*

² ". . . in hydrologiis suis Aegyptii Cynocephalum sedentem pingunt, ex membro vero ejus aquam affluentem faciunt." Horapollo, *Hierogl.* i. 16.

³ "Le singe est l'emblème de Thot, le dieu de la science et de l'équité, qui se confondait souvent avec Aâh, la lune, symbole de la régularité. D'après une croyance générale dans l'antiquité, le cynocéphale urine à intervalles réguliers douze fois par jour."—Daressy, *Bull. de l'Inst. Égypt.* 1915.

⁴ Brugsch, *Thesaurus*, pp. 46, 53.

⁵ Lepsius, *Denkm.* 3, 170–1.

⁶ Daressy, *Med. H.* p. 155 *et seq.*

⁷ So written in this article to distinguish from our one-twenty fourth part of a day.

⁸ *Brit. Mus. Guide to Egy. Sculp.* (1909), Nos. 948, 949 (Bay 29).

⁹ The 36 constellation situated on the horizon at any given time.

¹⁰ A similar phrase occurs on a fragment now in Florence.

¹¹ *G.Z.U.* pp. 60–63.

"The first time I was honoured was in the reign of the majesty of the King of Upper and Lower Egypt, Amenhotep I, . . . while reading in all the books of the divine words¹ . . . (I found that the winter night was) 14 ("hours" long) . . . if the summer night was 12 "hours" (long) . . . (I found an increase in the length of the nights) from month to month (and) decrease month by month . . . I (represented them on the vessel of the water clock) and the movements of (the sun god) Re (and of the moon god?) with the utterances of both. . . The sign of life and happiness is in their hand. . . (the sun god) Re gives (it) to the moon goddess Nechbet, who approaches Re . . . (she holds the sign of life) which she has in her hand, to the nose of his majesty. She approaches him. . . glad that he sees these goddesses as they go to and fro in his presence. I made a *Mrhyt* reckoned from the zero of the year (?). It was for the deceased king. . . Never was one made like it since the beginning of time. I made this splendid instrument in honour of the deceased king, Amenhotep I, divided in half (and thirds).² It was correct (?) at the beginning of the harvest season, in winter (?) at the . . . of the moon in its times. Every hour (lies) to its time (?). The water runs out through one outlet only."³

If Amenemhet's work was original, this is interesting as the earliest known record of physical observations. He gives the relation between the lengths of summer and winter nights—or perhaps the scale lengths corresponding to mid-summer and midwinter—as 14 : 12.

The clock described is similar to the one found at Karnak. Around the rim of this vessel appear the names of the calendar months in order. On the inner surface under each month sign is a row of small depressions⁴ about one-fifth of an inch in diameter, extending towards the base—their position corresponding to the water level at the various "hours" for the month in question. The row of marks constitutes the scale for the month (*see* Fig. 2). The longest scale (4th month—Hathor, September) measures 14 "fingerbreadths," and the shortest (Pachons, March) 12, agreeing with Amenemhet's relation.

In use, the vessel was filled to the full-line, not visible in the Karnak example, where it had probably been painted on. Traces of the line are to be seen in the other fragments. At the end of the first "hour" as measured by the clock, the water level would have sunk to the first mark, and so on successively through the various "hours" to the last mark. Except in the case of one month, the last mark is not shown as its position is covered by the row of alternate signs of Life and Stability which decorate the interior. The flow of water from the orifice averaged 10 drops a second.⁵

We must now consider how the markings for the water levels were obtained. Among the Oxyrhynchus Papyri is part of the leaf of a papyrus book, dating from the 3rd century B.C., and containing descriptions of astronomical instruments.⁶ The calculations are indicated in this fragment.

¹ *i.e.*, in the whole of the Egyptian Literature.

² In order to get the twelve divisions. The *Mrhyt* was an instrument of measuring time.

³ The *lacunae* are not of equal length in the original.

⁴ In other examples, a small circle crossed diametrically by a short horizontal line—☉.

⁵ Horapollo states that a metal tube of narrow bore was fitted to the aperture (*loc. cit.*).

⁶ Grenfell & Hunt, Vol. 1, No. 470, p. 145.

"The following is the construction for clocks. The upper part of the vessel is made 24 fingersbreadth, the base 12 and the depth 18."

These dimensions correspond closely to those of all the vessels for which figures can be obtained. The calculation proceeds to find the volume of the 12 sections. First the mean diameter is found thus :— $(24 + 12) \div 2 = 18$: then, the mean circumference by multiplication by 3—result 54: next, the mean sectional area, by multiplying the diameter by one-quarter of the circumference ($2r \times \frac{1}{4}$ of $2\pi r = \pi r^2$). This gives the volume of the section of depth 1 fingerbreadth, on the assumption that the volume of the frustrum of a cone is equal to the volume of a cylinder of the same height and same mean diameter. This assumption is incorrect.¹

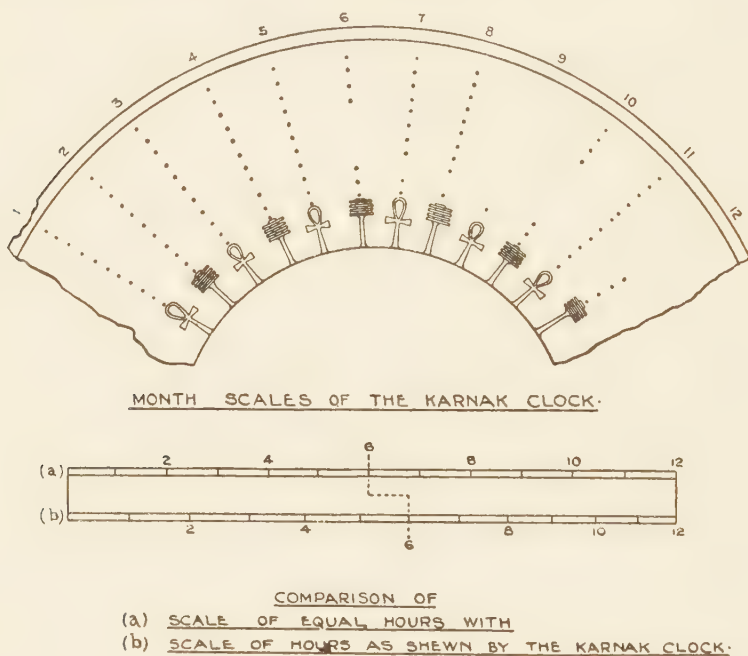


FIG. 2.—MONTH SCALES.

FIG. 3.—COMPARISON OF SCALES.

Since the height is $18f$, 18 divisions determined by 19 horizontal lines will be required, and the diameter decreases from $24f$ to $12f$ by 18 steps—i.e., by $\frac{2}{3}f$ per step. The volume of each successive section is found in the same way. It is not quite clear how the volumes of the sections were utilised, but it seems evident that it was believed that the water level sank equal heights in equal times. This is not true for any vessel, in which the side is inclined to the base at an angle

¹ With the usual notation, and denoting 1 fingerbreadth by f , the Egyptian calculation corresponds to the formula $3h \left(\frac{r + \rho}{2} \right)^2$ giving 4,374 cu. f , for a vessel of the dimensions given above. The correct formula is $\frac{h\pi}{3} (r^2 + r\rho + \rho^2)$ giving 4,752 cu. f .

Note— $1f = \frac{1}{4}$ "hand" = $\frac{1}{28}$ cubit = $\frac{3}{4}$ inch approx.

See also article by the writer on "Egyptian Mathematics" in *ANCIENT EGYPT*, 1922, Pt. IV, p. 116.

varying between 109° and 112° as in the Egyptian examples. It would be approximately true if the angle were 103° , and theoretically exact for a vessel of which the section corresponds to the curve $r = \sqrt[2]{h}$.

The fundamental scale ($12f$) is the shortest of the Karnak clock. In the others it occupies the middle position. The aperture of the Karnak clock is a distance of $4f$ below the lower end of the $12f$ scale.

The variations in the scales from month to month must now be considered.

In the Karnak example, the scale lengths in terms of fingerbreadths " f ," are approximately as follow :—

10th month	...	...	$12f$	The errors are almost negligible
11th and 9th months	...	...	$12\frac{1}{3}f$	except in the case of the figure $13f$,
12th and 8th months	...	...	$12\frac{2}{3}f$	which is $\cdot 25f$ too great.
1st and 7th months	...	...	$13f$	
2nd and 6th months	...	...	$13\frac{1}{3}f$	
3rd and 5th months	...	...	$13\frac{2}{3}f$	
4th month	...	...	$14f$	

These figures show that a uniform change of $\frac{1}{3}f$ per month was intended.

It has been pointed out ⁽¹⁾ that the Egyptians probably took into account the different rates of flow due to changes in the viscosity of the water at different temperatures. This effect would tend to make the scales for the summer months shorter, as the flow is increased with rise of temperature ⁽²⁾. As the clocks were probably used in the interior of massive stone buildings the differences of temperature would not be great. If the effect of viscosity is taken into account, the ratio between the lengths of the longest and shortest nights as indicated by the clock is probably not far from correct.

The mass of the building would tend to delay the times of highest and lowest temperature, and this accounts for the fact that the shortest and longest scales are those for September and March³—not those for the solstice months, as we should expect.

Of the remaining examples of Outflow Clocks, those dating from Ptolemaic times have scales showing approximately correct proportional changes (*i.e.*, 3 : 2 : 1). This indicates a distinct advance in theory since earlier times. It is not clear if the new theory originated in Egypt or is due to Greek influence.

A study of the scales makes it evident that the Ancients did not succeed in dividing an interval of time by these methods into anything approaching equal intervals. The "hours" indicated by the clock for any month show considerable variations. Although nearly correct at mid-scale, the early "hours" were $\frac{1}{5}$ to $\frac{1}{4}$ too long, and the later ones were too short by the same amount. (See Fig. 3.)

The reason for this will be clear from the preceding. It was believed that the water level sank equal heights in equal times. In fact, so far as we know, the

¹ ANCIENT EGYPT, 1917, p. 42.

² Athenaeus (II, 16), 3rd century A.D., remarks that water "used in hour glasses does not make the hours in winter the same as those in summer, but longer, for the flow is slower on account of the increased density of the water."

³ About 1400 B.C., the month Hathor commenced in mid-September and the month Pachons in mid-March.

Ancients had no simple means of determining whether the "hours" were equal or not.¹

Certain figuring on some sacred cubits appears to consist of tables connected with the markings on water clocks, but their use has not yet been determined.²

Another example of a water clock was found at Edfu in 1901 and is now in the Cairo Museum (Fig. 4). Judging from the style, it dates from about A.D. 100. It is a cylindrical vessel about 12 inches in height and over the aperture at the base is the figure of a seated ape. Round the inside run twelve uneven curves, divided into twelve parts by vertical lines, for the months (Fig. 6).

As an inflow clock the vessel would have been used in the following way. At the commencement of day or night, the aperture was closed and water was



FIG. 5.—MODEL IN CAIRO.

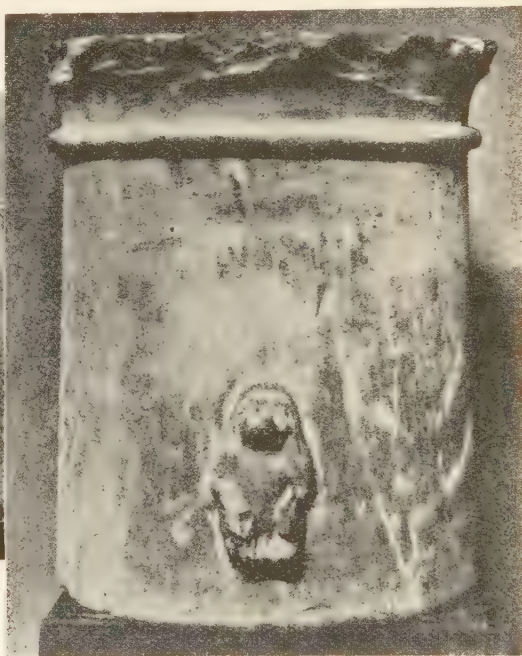


FIG. 4.—EDFU CLEPSYDRA, CAIRO.

poured in until the level stood at the lowest mark. Water was allowed to drip into the vessel from a reservoir. As the level rose within, the height at any given time could be read on the interior scale or more easily by means of a float arrangement indicating the time on a scale outside. Such clocks were common in Roman times.³ If the reservoir were maintained full of water, so as to provide a constant head, errors due to diminished flow as the reservoir emptied would be eliminated.

So far as we know, inflow vessels were always cylindrical in shape, and under constant head of water in the reservoir and neglecting temperature changes, a

¹ The pendulum does not seem to have been known before the time of Galileo, who is said to have applied a simple form to the measurement of pulse beats (A.D. 1583). The Ancient Egyptians knew that there is a connection between the pulse and the heart beats, but there is no direct evidence that they took note of variations of the pulse in sickness or made any quantitative observations. Galileo used a form of water clock for the determination of time intervals in his experiments on the motion of bodies on inclined planes.

² See *G.Z.U.*, p. 14B.

³ Ctesibus invented an improved form in Alexandria 245 B.C. (*Vitruv. de Arch.* IX, 9).

uniformly divided scale would be correct. Had these vessels been used as outflow clocks previously described, the inaccuracies would have been considerable.¹

Models of these clocks bestowed as votive offerings can be seen in the Museums of Cairo, Leyden and New York. A specimen from Cairo is illustrated in Fig. 5. It stands about $4\frac{1}{4}$ inches high.

Water clocks were introduced from Egypt into Greece and Italy², and thence spread to other countries in Europe. The Greeks named the instrument *κλεψύδρα* (whence the Latin *clepsydra*) "Water—thief"—from two words, to which our words "kleptomaniac" and "hydrant" are related. The water "stole away." The clocks were used by day as well as by night, and one was placed in the market place of every important town. Noblemen would send their servants to enquire the time. The clock was guarded by an attendant whose duty it was to fill it at the proper intervals and to protect it from interference by the mischievously disposed. No doubt the small boy of the period found its attraction irresistible and delighted to dabble in the water or to introduce pebbles in order to stop the flow.

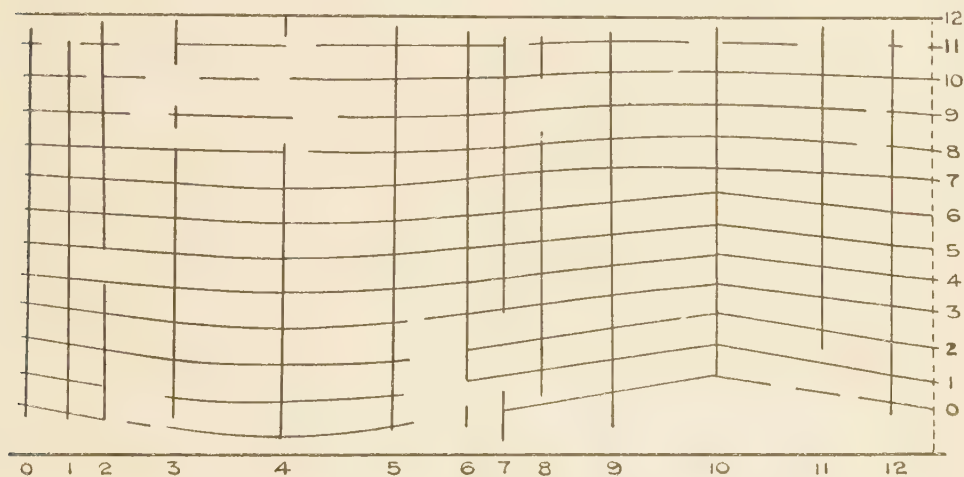


FIG. 6.
MONTH SCALES OF THE EDFU CLOCK.

In the Roman Law Courts, water clocks were regularly used "to prevent babblings, that such as spoke ought to be brief in their speeches" (Phavorinus). Hence the Latin phrases, *aquam dare*—"to give an advocate speaking time," and *aquam perdere*—"to waste time." The poet Martial refers to a tiresome speaker, who moistened his lips from a glass of water, and he suggests that it would be as great a relief to himself as to the audience if the speaker drank from the water clock! A Roman lawyer is said to have muddied the water to impede the flow and enable him to gain time.

Caesar used water clocks to regulate the night-watches for his troops in Britain and noted that the summer nights were shorter here than in Rome.

¹ The emptying time of a cylinder from which water flows out naturally through a small aperture is twice the emptying time under constant head of water and is proportional to the square root of the "head." It follows that the height-differences for equal time-intervals are proportional to the odd numbers. This is not the case for the Edfu vessel, in which the scale markings for any particular month are evidently intended to be equally spaced.

² See E. J. Wood—"Curiosities of Clocks and Watches."

So late as the 9th century, a clepsydra was looked upon as a princely gift. Among other presents, including treasures of Eastern silks and a favourite elephant, Haroun-al-Rasched presented a very elaborate and costly clepsydra to Charlemagne. As the hour struck, the case opened, figures on horseback appeared, and balls dropping into a resounding bowl indicated the time.

A simple form was in use in India until recent times. A copper bowl provided with a small opening at the bottom was floated on water. When it became full and sank, an attendant struck the hour, emptied the bowl and floated it again.¹

Water clocks lingered in France and Italy until the end of the 15th century, when they were gradually displaced by the introduction of clocks and watches in which regularly moving mechanism provided a more accurate and reliable method of measuring time.

R. W. SLOLEY.

[Regarding the Edfu cylinder, it is very difficult to regard it as an inflow vessel, because the lines start from a uniform level at the top, and vary greatly between the months below. The idea of beginning each night by a variable filling up to a given mark seems very unlikely. There is one way in which it would work truly as an outflow vessel like the Karnak vessel. If a solid cone was placed inside, with a base equal to the vessel, and tapering parabolically to the top, then the water space around it could be proportionate to the height over the base, and therefore to the flow through a discharge pipe below. Thus the graduations should be equal, as we see them. Such a cone would necessarily be a separate piece, and when once parted from the vessel the purpose of it would not be recognised. A plain cone of this kind is at University College. The longest divisions being for September, and the shortest for March, prove that they were varied for temperature, and not for the solstices. The hours were always equal, as specified in the inscription which names the winter night as being two hours longer than in the summer. (See *ANCIENT EGYPT*, 1917, pp. 42-45.)

F. P.]

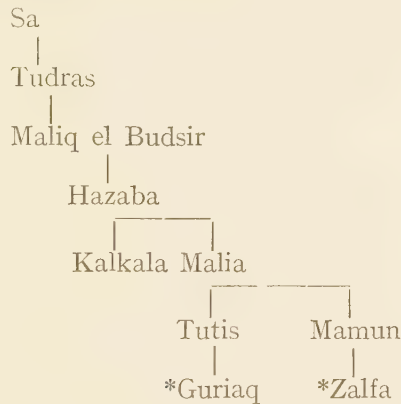
¹ Professor Petrie points out that the inflow bowl developed from the floating cocoanut with a leak in it, used for time in voyages by Pacific Islanders.

MAQRIZI'S NAMES OF THE PHARAOKHS.

SOME years ago Prof. Petrie suggested to me that a fruitful field of investigation might be found in the study of the Arabic names of the Pharaohs. These names are no more distorted in Arabic than they are in Greek, and therefore a certain number of identifications are possible. It is also evident that tradition has preserved certain incidents and events otherwise unrecorded. In this paper I take only Maqrizi's account as given in his chapters on the cities of Amsus (أمسوس) and Memphis, Amsus being the ancient name of Masr or Cairo.

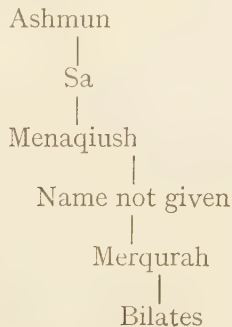
The Kings of Memphis begin with Beïsar, son of Ham, son of Noah ; the genealogy then continues, in the same way as in Genesis x, with tribal, not personal, names. Maqrizi quotes various authorities who differ slightly in the order of the tribes, but they all agree on the one point, which is that the earliest personal name is Tudras, son of Sa. The genealogy, as quoted from Ibn Abd el Hakim, gives Masr, son of Beïsar, then in succession the four sons of Masr—Quft, Ashmoun, Atrib, and Sa. These names show clearly that up to this point we are dealing with tribes or cities, therefore Tudras ben Sa must be Tudras the Saite. This suggests that according to tradition the Kings of Memphis came from the Delta.

The most consecutive genealogy given by Maqrizi himself, and also quoted from Ibn Abd el Hakim, represents, perhaps, a Saite dynasty, and is as follows :—



In the reign of Zalfa the Amalekites (Hyksos ?) entered and conquered Egypt after a series of battles, the Egyptian queen retreating further and further south, until she reached Kus, where she committed suicide rather than fall into the hands of her enemies.

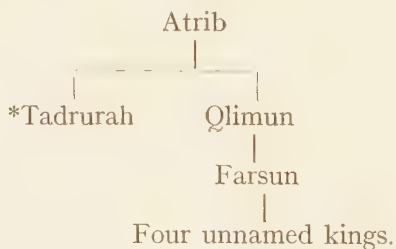
Another genealogy appears to represent the Kings of Ashmun :—



The termination *sh* which occurs so often in Maqrizi's names suggests a foreign, probably Greek, source of information. Both Menaqiush and Merqurah suggest Egyptian names, the latter might very well be derived from $\odot \overline{\text{L}}$, a name of a king in the XIIIth dynasty. It might, however, be a distorted form of $(\odot \uparrow \overline{\text{L}})$. Merqurah was, according to Maqrizi, a wise magician. He built cities, founded temples, and raised statues. At his death he was buried in the western desert with rich magnificence.

Bilates, the son of Merqurah, was a child at his father's death, and the kingdom was governed by his mother, whose name, unfortunately, is not preserved. She is said to have been a capable and just ruler, who gained the affection of her subjects by lowering taxes. When Bilates reached manhood he left the administration in her hands, and amused himself with hunting. After a reign of thirteen years he died of small-pox and the succession passed to his uncles. As Maqrizi calls these uncles Atrib and Sa, it is evident that they are each the beginning of a new genealogy of Athribis and Sais respectively. The account of Merqurah and Bilates gives a reasonable and unexaggerated summary of two reigns, of which the last may possibly be identified. There is at least a resemblance between Bilates and Thothmes II, the weak young king whose energetic and capable queen administered the kingdom. The marks on the skin of the mummy of Thothmes II may have been caused by the same malady of which Bilates is said to have died. There is, however, no possibility of deriving the name Bilates from any of the names of Thothmes II; therefore, though the tradition may point to Hatshepsut and Thothmes II, the name must be sought elsewhere. The Bilates of Maqrizi is one of the earliest kings of history, and I would suggest that the name is identical with that of a Pharaoh of the IIInd dynasty $\overline{\text{L}} \uparrow \overline{\text{L}}$. The reading presents only one difficulty, the final *n*; with that exception, the name Per-hati-s passes easily into Bilâtes. The question whether the *n* is essential to the meaning of the phrase cannot be certain until that meaning is known. If it is merely the indirect genitive, as in Senusert, the name could be written either with or without the *n*.

The Athribis genealogy is very short:—



This Athribis is clearly in the Delta, for Qlimun is said to have built both Tennis and Damietta. As the kingdom reverted to Sa ben Qubtim, it would seem that Sais absorbed Athribis.

The most consecutive genealogy of the Saite kings has been given above.

Interchange of Arabic letters by misreading of diacritical marks or by misformed signs.

ج = ق د = ر ي = ث = ت ن = ب = ت ش = س خ = ح = ج ذ = د ل = ا
p = f = q r = u y = th = t = b = n s = sh kh = h = g d = dh l = y

TRANSUTERATION		MAQRIZI	EARLY ARABIC	AFRICANUS
DIUSQULITA	78 or 88	ديوسقوليطة	ديوسقوليطة	Εἰκοστὴ δυνάστεα βασι- λέων Διοσπολιτῶν 16' εἰ ἐβασίλευσαν ἐτὶ ρλέ Σμενδῆς 26 Φουσέννης 46 Νεφελερῆ 4 Ἀμείνωφθίς 9 ᾽Οσοχώρ 6 Ψινάλης 9 Φουσέννης 14 Σέσογχις 21 ᾽Οσορθών 15 (Ἄλλοι τρεῖς ἐτὶ κέ) 25 Τακέλωθις 13 (Ἄλλοι τρεῖς ἐτὶ μβ') 42 Πετουβάτης 40 ᾽Οσορχώ 8 Ψαμμουῶς 10 Ζήτ 31 Βόχχωρις (syncel 44) 6 Σαβᾶκων 8 Σεβιχώς 14 Τάρκος 18 Ἀμαῆς (syncel) 12 Στεφινάτης 7 Νεχεψώς 6 Νεχαώ 8 Ψαμμήτιχος 54 Νεχαώ δεύτερος 6 Ψάμμουθις (Euseb. 17) 6 Οὐαφρῖς (Euseb. 25) 19 Ἄμωσις (Euseb. 42) 44 Ψαμμεχερίτης 6m Ἀμύρτεος 6 Νεφερίτης 6 ᾽Αχωρις (Euseb. 12) 13 Ψάμμουθις (Euseb. 2) 1 Νεφορίτης (Euseb. Μοῦθις) 4m Νεκτανέβης 18 Τέως 2 Νεκτανεβός 18
SMANADUS	26	سمانا نوس	سمانا نوس	
SUMANAS	100	سمو صا نوس	سمو صا نوس	
MEFKHRAS	4	مفخر اس	مفخر اس	
AMANAQUNAS	9	امانا قونا س	امانا قونا س	
ASEHURIS	6	اسحور يس	اسحور يس	
FESINAKHES	9	فسينا خس	فسينا خس	
FESUSANES	35	فسوسا نوس	فسوسا نوس	
SESUNÁKHUSIS	21	سسونا خوسيس	سسونا خوسيس	
ASALIUN	15	اساليون	اساليون	
ṬAFALUNIS	13	طا فالو نيس	طا فالو نيس	
NETAFANASTLES	25	نطا فانا سطلس	نطا فانا سطلس	
ASARATHUN	9	اسارا ثون	اسارا ثون	
FESAMRES	10	فسا عرس	فسا عرس	
AUFAINUAS	44	اوفاي نو اس	اوفاي نو اس	
SAYAQUR	12	سا يا قور	سا يا قور	
SEKHIS	12	سبا خسر	سبا خسر	
ṬERAHUSH	20	طرا حوش	طرا حوش	
AMRAS	12	امرا س	امرا س	
ASTETAFINIAS	7	اسيطا فينيا س	اسيطا فينيا س	
BAKHFSASUS	6	با خفا سوس	با خفا سوس	
YAKHU	8	يا خو	يا خو	
FESAMAMELTQUSH	44	فسا ما ملطيقوش	فسا ما ملطيقوش	
BEHENUQA	6	بحنو قا	بحنو قا	
FESAMERTAS	17	فسا مر تا س	فسا مو نيس	
UAFRES	25	وا فر س	وا فر س	
AMASLES	42	اما سلس	اما سلس	
AMERTIUSH	6	امر طيو ش	امر طيو س	
MAFREṬAS	7	ما فر طا س	ما فر طلس	
AUKHRES	12	او خر س	او خر س	
FESAMUT	2m	فسا موت	فسا موت	
MUTATUS	7	موتا طو س	مو بطو س	
NAFATANEḤUSH	13	نا فا تا نبوش	نا فا تا سوس	
TUS	7	طوس	طيو س	
NAFATANINAS	18	نا فا تا نينا س	نا فا تا ساس	

The Amalekite kings, who may represent the Hyksos, are as follows (the names in brackets being variants) :—

Duma'
|
El Walid
|
El Rian (Nahraush)
|
Dumush (Darem)
|
Ma'adius (Mo'dan)
|
Aksames (Kasem)
|
Latis.

These are not identifiable, and are followed by the "Pharaoh of Moses," whose genealogy is given with great particularity back to Shem and Noah, notwithstanding the fact that he is said to be a slave and an Egyptian. After him come a number of kings and queens without any order, until we reach solid ground with the XXIst dynasty. The names of these kings are said to be Greek (*Rumi*), and it is fairly certain that they are copied from Manetho, though the variants show that it was not from a known list. The Arabic writing has so distorted the spelling that many names are almost unrecognisable, and it is only by carefully observing the possible mistakes which can be made by misreading certain letters that many names, which at first sight appear a mere jumble, are found to be fairly accurate transcriptions of the Greek. One or two points are noticeable. The dynasties are not divided, the names of the kings running on consecutively. The Persians are omitted completely, Amyrtaeus of the XXVIIIth dynasty follows directly after Amasis II, and he and his four successors are said to be Babylonian, while Nectanebo I and his two successors are called Assyrian. "The Kingdom then passed to Alexander, son of Philip the Greek" (فيليبس اليونانى). The variation in the lengths of reigns cannot, I think, be accounted for by misreadings or by mistakes in copying. The MS. from which this list is taken is therefore not the same as those copied by Africanus or Eusebius. For comparison with the Arabic I have given Africanus' list, with the variations from Eusebius and Syncellus where they agree with, and Africanus differs from, the Arabic, both in names and lengths of reigns. In Africanus there appears at the end of the XXIIIrd dynasty a king called Zet, with a reign of 31 years: this king does not appear in the later copyists, nor in Maqrizi, who passes directly from Fsamûs (Fasameres) to Aufaiûas. Prof. Petrie has suggested (ANCIENT EGYPT, 1914, p. 32) that Zet means only a doubtful quantity, which is unassigned. The reign of Aufaiûas, whom I equate with Bocchoris, is given by Maqrizi as 44 years: this agrees with Eusebius and Syncellus, but not with Africanus; in short, Maqrizi's dates agree usually with Eusebius when they differ from those of Africanus. This, however, is not the case at the end of the list. Africanus ends the XXIXth dynasty with Psammuthis 1 year, Nephorites 4 months; Eusebius gives Psammuthes 1 year, Muthes 1 year, Nephrites 4 months; Maqrizi differs from both, Fsamut 2 months, Mutatus 7 years. The dates of the XXXth dynasty differ in all three lists, but Maqrizi keeps closer to Africanus than to Eusebius, for his total is 38 years for

the whole dynasty, which is the same as Africanus. The reigns of Nafatanebush (Nectanebo I) and Tus are given respectively as 13 and 7 years, making 20 years for the two kings. Africanus has the same length of time but divides it differently, giving 18 years to Nectanebo and 2 years to Teōs.

It seems then, that Maqrizi, though he lived as late as the fifteenth century, had access to some list of kings which has not survived; a list which had been unintelligently copied, as witness the Diospolites of the XXth dynasty, transformed into a king called Diusqulita, but which is obviously the whole of the third book of Manetho.

It is possible that some of the earlier Arab historians who wrote on Egypt may also have recorded historical facts which would be worth investigating.

M. A. MURRAY.

THE ORIGIN OF

THE literal meaning of the expression is "To grind, or rub, the face," the figurative meaning is "to greet," when it is often translated as "Hail!" for it is the usual mode of addressing a god, or a king in his divine aspect.

The ultimate origin appears to be the African salutation by the rubbing of noses. This is clearly indicated in the Pyramid Texts (T 289)  "He [the god] greets thee" (lit. : he smells thee), the determinative of the two noses in close proximity showing the manner of greeting. This suggestion is borne out by the relief sculpture of Senusert I being embraced by Ptah; the position of the two faces indicates very clearly the ceremony which is being performed. With this explanation it is possible to understand how the expression "to rub the face" comes in the end to mean nothing more than "salutation."

THE DERIVATION OF THE NAME THEBES.

THE name of the New Kingdom capital of Egypt was written , transliterated *w'st*, but the name Thebes has long been recognised as a Hellenised form of the Coptic **ⲭⲏⲙⲉ**, probably influenced in the spelling by the name of the Greek city of Thebes. The origin of **ⲭⲏⲙⲉ** has, I think, never been recognised. Obviously it cannot be derived from *w'st*, but the sign  has two readings, and I think that the second reading  *d'm* not only gives the letters required, but gives good sense at the same time. The capital would then be "the city of electrum," the golden city, in other words. The feather attached to the staff is not an uncommon adjunct to a nome-sign, and appears to mean that the city or temple is on the west bank. If this reading of the name is correct, it will be necessary to revise the transliteration of 's name, who would then be Kham-jime, instead of Kham-wast.

M. A. MURRAY.

REVIEWS.

Introduction à l'étude des Hiéroglyphes. By H. SOTTAS and E. DRIOTON. 8vo. 195 pp. 4 plates. (Geuthner, Paris.) 1922.

This book is, as its title implies, an introduction only to the study of hieroglyphs ; it is, therefore, concerned only with the actual signs, their origin, their use, and the method of reading and writing. All questions of grammar and construction are very properly omitted. The book is divided into two parts : the first deals with the system, the second with the history, of the hieroglyphs. It is the second part which is the most interesting, for the authors have collected together a mass of information, beginning with the theories of the ancient Egyptians themselves concerning the origin of their own writing : then follows a chapter on the theories propounded by the Greek authors, another on the opinions of the Christian Fathers, and finally a chapter on the decipherment. There is no other book which gives so clearly the history of the knowledge of hieroglyphs. Every chapter in both the first and second parts ends with a short bibliography of the subject, so that the student is thus enabled to pursue the study much further. A sign list and some exercises in translating and reading conclude a most useful book.

M. A. MURRAY.

Vestigia Neolitiche nel Nord del Delta. By E. BRECCIA. 8vo, 6 pp., 5 pls. 1923. (Bull. Soc. Archéologique d'Alexandria, No. 19.)—This is the first statement of any early remains in the lower Delta. At Kom el Qanater, 5½ kiloms. S.S.W. of Abu Hommos, 40 kiloms. from Alexandria on the line to Cairo, lies the lower part of a mound of ruin. In this have been found pieces of flint knives, flakes and scrapers. Compared with the forms found in the lower part of the town of Abydos, they all agree in pointing to the middle of the 1st dynasty. The pottery is round bottomed, and differs from all the dated pottery at Abydos.

This discovery seemed so important that the site was visited to see if any further connections could be reached. It is a much denuded town site, the mound dug away to below the present level of the fields. The ground is nearly all occupied with houses and huts and Bedawy tents. There is no trace of stratification or sherds in the uniform mud soil. Some Greeks, settled for business there, in a large iron shed, pointed out the place where flints and pottery had been found ; but there was no indication in the mud soil formed of decomposed brick.

Various other sites in the district were looked over, but all were of Roman age. Kom Siheib, much cut away with large red brick walls exposed, and a wely on the top. Kom Farshut, nearly all cut away, 1st and 2nd century A.D. Kom Sauwan, straggling Roman mounds, nearly removed, no trace of flints to be seen ; some intelligent men agreed that they did not know why it was so called, as there never had been flints there, when the mound was high. The mounds north of Mamal el Qizaz station were also searched. Karyun, Kom el Hamman, Kom el Giza, Kiman el Nashw, Ezbet el Karashi, and Kom el Khabiri. Karyun and Kom el Hamman is a widespread Roman town site, much burnt, where bricks are dug for building and for *homra*.

PERIODICALS.

Académie des Inscriptions, Comptes Rendus, Sept.-Oct., 1922.

LACAU, P.—*Rapport du Service des Antiquités, 1921-2.* At Denderah all the surroundings of the great temple are being cleared. The smaller temple of Isis, which has reliefs on the present outside, proves to have been enclosed by a portico around it. One of the paving blocks is a re-used slab with coloured glaze inlaying, here attributed to the Ptolemies (? earlier). The basilica has a triple east end, and the lateral apses have each a side passage to a sacristy beyond. The five chambers correspond to the nave and four aisles.

At Karnak between the two pylons (VII, VIII) west of the Sacred Lake, a fine granite naos of Senusert I is found. South of these the pylon of Horemheb proves to be built of sculptured blocks of Akhenaten, and it is intended to remove the pylon and restore the earlier work. In the pylon III, the east side of the great hall, it is found that Amenhetep III used up for foundations the blocks of an alabaster chapel of Amenhetep I, and these will be removed, as the work is very good, and was buried before the puritanism of Akhenaten.

At Saqqareh the works of the VIth dynasty are being cleared, while all the early material for which our history is waiting is left untouched, and will not be permitted to be examined. The deep pits of the tombs are being opened, as the sepulchral chambers are found to be inscribed. To the north of the pyramid, burials of the Xth-XIIth dynasty are found, with the usual groups of servant figures and models of working parties.

At Aswan the obelisk in the quarry has been cleared, showing the original design as 46 metres long, half as large again as any now known. The granite proved so faulty that a reduced scheme was outlined.

At Asyut a great tomb on the lower level was cleared, where six hundred steles to Upuat were regularly deposited. Where only painted the design has perished, the carved steles are in good state.

M. Lacau says that the discoveries are almost too much—this before Tutankhamen! “To find is well enough, but we must publish, and that is a difficult duty at the present time.” Very true, but it is the first duty of those who find, and it will be well when the publication is insisted on as a *condition* of continuing excavation.

Académie des Inscriptions, Comptes Rendus, Sept. Dec., 1923.

GAUTHIER, H.—*Un nouveau décret trilingue Ptolemaïque.* At Tell el Maskh-utah was a trilingual decree of the 6th year of Ptolemy IV Philopator (217-6 B.C.). It is a duplicate of a fragment from Memphis, now in Cairo. One face bears a scene and the hieroglyphic text: the opposite face has the demotic, and probably the beginning of the Greek text, which runs along the edges.

A much damaged piece of a duplicate of the Rosetta decree has also been found, to the north-east of Heliopolis.

The subject of the Maskhutah decree is a victory of Ptolemy IV at Raphia over the army of Antiochus III, which gave Egypt control of Phoenicia and Coelo-Syria, as described by Polybius (V, 84-86). The new text states that Ptolemy spent four months arranging his control of the Syrian province. He brought back to Egypt the statues of the gods which had been carried away by the Persians. The priests ordered the erection of a triad of Ptolemy Arsinoe and the local deity in each temple of Egypt. Also a stele in each temple, and a festival on the anniversary of the battle. The stele supplies several dates and details of the ceremonial affairs.

M. MOUTET reports in letters a further clearing of the Egyptian temple at Byblos. Also finding the place of another royal tomb, covered with six courses of blocks, which he hoped to enter in November. Elsewhere he has an alabaster vase with an Egyptian inscription of a prince, whom he dates within half a century of the previous tomb.

M. PILLET reports the discovery at Karnak of a naos of Amen, dedicated by Senusert I, which had been reused as a basin in the XVIIIth dynasty.

Proceedings of the British Academy, 1923.

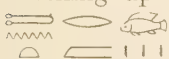
The Fall of Nineveh. By C. J. GADD. 8vo, 6 pp. 1923. (Proc. Brit. Acad.) 1s.

The dearth of annals at the closing years of the Assyrian empire has left many uncertainties. A piece of a tablet, which has been among the myriads in the British Museum, has now given part of the closing scene. It begins in the Xth year of Nabopolassar (616 B.C.), with an account of Assyria beset on all sides by enemies, the power which never befriended any other, and therefore had no friend. The southern provinces were lost, and at last in 612 B.C. Nineveh was taken. That, however, did not end the kingdom, for it continued with the rule of Ashur-uballit at Harran, only to be finally wiped out by the capture of that place in 610 B.C. by the Scythians. The siege of Nineveh lasted from early June till August, and three battles are recorded in the time, agreeing with the account of Diodoros. The detail of the end of the last king Sin-shar-ishkun has been lost, but he certainly died, as the ruler in Harran was Ashur-uballit.

The Egyptian connections are that as far back as 616 Psamtek is said in the new tablet to have sent troops to co-operate with the Assyrians. In place of being dreaded raiders, as fifty years before, they were fellow-sufferers from the Scythian invasion; much as if we allied with Germany to keep back pressure from Asia. Bearing on the Scythian question there are the two great raids of Nekau across Palestine and Syria to Carchemish, in 609 and 605 B.C. There are many difficulties in understanding this Scythian domination. They are usually credited with this lasting from 624 to 596 B.C., the 28 years of Scythian governance of Asia, the 29 years during which Psamtek kept them barred out of Egypt. Yet through this period there seems no trace of any such invaders in the Jewish annals. Psamtek was sending troops to Assyria in 616, Nekau was passing up to the Euphrates in 609 and in 605. Nebuchadnezzar was harrying Judaea in 607 to 588. Yet none of these movements seem compatible with any power, or presence, of Scythians in Palestine. There is much awaiting explanation in this period.

Zeitschrift für Ägyptische Sprache, Vol. LVIII, Pt. II, 1923.

SETHE, K.—*Die Sprüche für das Kennen der Seelen der heiligen Orte* (continued).—This portion of the article deals with Chapter 113 of the Book of the Dead. The sanctuary to which the speaker demands entry is the *nḥn*, which was, according to Sethe, a building in Hieraconpolis. The statement on which the speaker bases his claim is made up of two portions which had no connection originally: (1) a myth concerning the hands of Horus, which were thrown into the water in consequence of a magical curse of Isis. They were rescued by the crocodile god Sebek, at Ra's command, and were preserved as relics at Hieraconpolis. (2) A short account of the allocation of two of the children of Horus to Hieraconpolis, at the request of Horus, so that he may guard them there. There is a corresponding passage in Chapter 112, in which, however, the reason for the allocation of the four children between Buto and Hieraconpolis is different. The two portions are connected by the identification of the two children with the rebellious spirits embodied in the hands of Horus; the further identification of Duamutef and Qebhsennuf and their father Horus with the "souls of Hieraconpolis" brings this chapter into line with the other chapters of the group (*A.E.*, 1923, I).

The story of the loss of the hands of Horus may have some bearing on the mutilation (διαμελισμός) mentioned by Plutarch (*Is. et Os.* 20), in a passage which follows the quarrel between mother and son (*Ibid.* 19). There may also be a connection between the name of the town which arose in consequence of the "fishing up" of the hands (*Tr.rmṯw* or *Ty.rmṯw*) and that of the Delta town  on the Piankhi stela. The name also suggests the Lower Egyptian nome capital *παπρήμις* (in Egyptian "the [land] of the fish" ?), where the mythological basis of the great feast was a conflict between the god and his mother.

The final sentence reads, "not to be said on eating pig," and thus connects Chapter 113 with Chapter 112, in which the taboo on this animal is explained.

KEES, HERMANN.—"*Anubis Herr von Sepa*" und der 18 oberägyptische Gau.—The reading of the name of the eighteenth Upper Egyptian nome as "Sepa" rests on the view that Anubis bore the title "lord of Sepa" in his capacity of chief god of this nome. There is every reason for considering this reading to be incorrect. The early god of this nome was a falcon god, whilst the later partial supremacy of Anubis was due to the spread of the Osiris cult. The word in the epithet is always written phonetically in the early examples, and has certainly the sound value *Śp̄*, whereas the nome sign is always written ideographically by a bird sign, which is not the *p̄* bird. It is certain that the form of the name does not correspond to the regular writing of the word  "to cause to fly," from the O.K. to the N.K. In the oldest example a fragment of a nome list dated to the IVth dynasty, the ordinary god sign  is used for the nome sign. The same sign stands for the god in the Pyramid Text ritual concerned with purification formulæ, in which four gods are needed, but in later versions the  sign is used. A somewhat later (unpublished) nome list from the sun temple of N. User-Ra shows a variant , the god on his sacred "boat," a form in

which the falcon god was widely worshipped on the East bank of the Nile. The so-called boat is probably an archaic standard form. Probably many local names were concealed in this ideogram; probably one of these was *cntj* of Antaeopolis. The sign with outspread wings  first appears in the nome list of Sety at Abydos.

The epithet "lord of Sepa" is the one which is least often used in Old Kingdom prayers to Anubis for a good burial, and it takes the least important place in association with other epithets. The absence of the place determinative  in early examples and the constant presence of the sign  indicate that the word contains the same root as does  *šp₃.t* "nome." If this be so, then the title would have a general meaning which would make it appropriate for wider use than in a local cult, like the epithet "on his hill." The occasional use of the sign  in the Middle Kingdom was obviously influenced by similarity of sound with the name of the god *šp₃*, whose name     occurs in the Pyramid Texts in charms against snakes and other venomous animals. It is clear from several texts that this god was worshipped at Heliopolis, and thus became associated with the Ra circle, and consequently became fused with the gods of the dead of the Osiris faith. We may assume thus that the Osiris cult was responsible for bringing *šp₃* into close association with Anubis. There was no linguistic difficulty in the way, as the names were pronounced alike.

RUSCH, A.—*Die Entwicklung der Grabsteinformen im Alten Reich*.—This paper is an attempt to bring the various forms of Old Kingdom gravestones into chronological order. The peculiarities of dated steles are arranged in tabular form for use in placing steles of unknown date. A list of religious formulæ and of titles of Anubis and Osiris, based on order of frequency, is also given for use in doubtful cases.

The usual form of false door in the best period of the Old Kingdom is a combination of the slab bearing a representation of the deceased before an offering table, and of the recess door. Both components had a separate development before their combination. Some of the distinctive features of the false door may be noted here.

Originally the false door and slab were not shut off from the outer wall; then came a connection by means of the upper lintel, whilst the next step was the inclusion of the outer wall in the framework of the false door in the time of Mycerinos. With the end of the Vth dynasty appears the form with three jambs. In the VIth dynasty the corniced door is distinctive. In the early part of the Vth dynasty the extension of the jamb inscriptions at the expense of the size of the figures is a valuable means of dating. About the middle of the Vth dynasty it was customary for the inscriptions and figures of corresponding jambs to be identical. Throughout the IVth and almost always at the beginning of the Vth dynasty the jambs bore only name and titles: then offering texts appeared, and were the rule up to the middle of the VIth dynasty. It was customary in the VIth dynasty, particularly in the case of corniced steles, for each line in the jamb inscription to end with name and figure, or with name only.

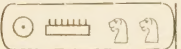
Up to the middle of the IVth dynasty the lintel had only one line of inscription, the length of which might need accommodation to the available space by a zigzag arrangement of the text. Later, and increasingly throughout the Vth and

VIth dynasties, several lines occur. At the beginning of the IVth dynasty the contents of the lintel are names and titles; with Khufu and Khafra begin offering texts on one lintel, at least, and with the Vth dynasty these occur on both.

It is difficult to distinguish between corniced doors of the late Vth and of the first half of the VIth dynasties, but from the middle of the VIth dynasty deterioration in style was very rapid, so that defective execution and small size make differentiation easy. In the Intermediate period, the false doors are no longer part of the wall, but have become independent gravestones, and are precursors of the Middle Kingdom steles. The most important peculiarities of the late VIth dynasty are two innovations which are almost constant: the presence of two eyes on the central recess, inner jamb or lower lintel, and of the representation of two bolts on the recess.

KÖSTER, AUGUST.—*Zur Seefahrt der alten Aegypter*.—The author contends that the ancient Egyptian must have been a highly able seaman. The dangers and difficulties of the Red Sea prove that the voyage to Punt was an amazing feat. Using every advantage of wind and current, a voyage to the south coast of Arabia or Somaliland from Thebes and back must have taken a year, whilst ships which rounded Cape Guardafui needed a year more. There is no greater proof of the antiquity of Egyptian seafaring, and of the high stage of its development in ancient times, than the fact that expeditions to Punt were a regular institution in the Old Kingdom. The first seafaring ships that are known to us from the temple of Sahura show a long experience of the requirements of the sea. That the overseas trade with the Mediterranean lay partly in Egyptian hands is shown by the requisition by Thothmes III of a merchant fleet for the transport of his army to Syria.

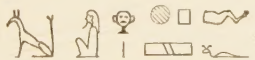
RANKE, HERMANN.—*Keilschriftliches*. This is a continuation of the article on cuneiform renderings of Egyptian names in *Zeitschrift*, LVI (ANCIENT EGYPT, 1923, III).

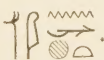
(4) *Minpahtaria* = 

(5) *Piriḥnāwa* or *Pariḥnāwa* = 

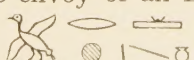
(6) *Riamšja* *  (?)

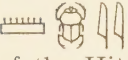
(7) *On Āna* = 

(8) *Šutahapšap* = 

(9) *W [ašmua] ria-naḥta* = * 

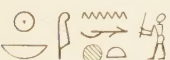
(4) The name of Rameses I occurs as *Minpaḥiritaria* in two publications of texts. One of these publications was based on a photograph, and it seems probable that the extra *r* in the name is due to a misreading of a sign, whereas the correct reading would give the required form *Minpahtaria*.

(5) Text I, 19, mentions an "Elder" named *Piriḥnāwa*. In letter 118 the variant *Pariḥnawa* is borne by the envoy of an Egyptian prince to the Hittite king. The meaning of the name  appears to be "he who understands seeing."

(6) Is an example of the substitution of a diminutive form of a name (cf.  for Men-Kheper-Ra in the previous article). In a letter to a queen of the Hittites, Queen Naptera refers to her husband Rameses II as *Riamašja*. The name occurs many times in official use as *Riamašša*. It is true that the Egyptian equivalent $\odot \text{𓂏} \text{𓂏} \text{𓂏} = *R.^{c}mš.y$ has not been found, though there is an instance of an even more abbreviated form. A workman sentenced by a vizier "complains of the vizier"  "to Mesy" (*Salt*, 124, 2, 17 f.). This name must, therefore, be a pet name for Rameses II, as appeal against a vizier could be made only to the king.

(7) Shows the disappearance in the time of the XIXth dynasty of the *w* in the sign  = *ʾwn*, at any rate in the name of the town.

(8) In a letter to King Hattušil, *Šutahapšap*, a (son) of the King of Egypt, addresses the Hittite king as "my father," and congratulates him on the conclusion of the treaty of alliance. The letter can thus be dated exactly to the twenty-first year of the reign of Rameses II, and must have been written by one of this king's sons. The contents indicate the Crown Prince as the author. The cuneiform rendering must represent the Egyptian name *Šth.ḥr.ḥpš.f*, "Seth is on his sword," which seems to have been a variant of the name Amen.ḥer.khepeshef, "Amen is on his sword," of the "eldest" [= eldest surviving] son of Rameses II. Sethe cannot explain the change in name, but suggests that if both forms were in use at the same time, that the name containing Seth may have been used in compliment to the Hittites.

(9) *W* [*ašmua*] *ria-nahta* = $\ast \odot \text{𓂏} \text{𓂏} \text{𓂏}$. The name "Rameses II is victorious" is not known as yet amongst Egyptian names, though similarly-formed names occur, such as $\odot \text{𓂏} \text{𓂏} \text{𓂏}$, "*Wsr-mꜣt-Rꜣ* causes to exist";  "Amentotep III is victorious"; $\odot \text{𓂏} \text{𓂏} \text{𓂏}$, "Rameses is victorious."

SCHÄFER, HEINRICH.—*Flachbild und Rundbild in der ägyptischen Kunst*. This article is intended to form the seventh and last chapter of a new edition of the author's book, *Von ägyptischer Kunst* (2nd Edition, 1922). It deals with the principles and methods of Egyptian sculpture in the round, and demonstrates the close relationship of Egyptian sculpture and drawing. For Lange's law of "frontality," based on symmetry, Schäfer substitutes a law of "straightness of direction" (*Richtungsgradheit*). In Greece, sculpture in the round freed itself from this law at the same time that drawing in perspective ousted "representative" drawing (*i.e.*, the drawing of an object not as it is actually seen, but from an image mentally constructed from its main aspect or from a combination of characteristic aspects). This change is not achieved by all peoples at a certain stage of development, but only by those who are directly influenced by Greek art of the fifth century B.C. In other words, the change in the history of sculpture and drawing is not the result of a law of development, but of a definite historical event.

MISZELLEN.

SETHE, K.—*Zu Ä.Z.*, 57, 88. Sethe contributes some supplementary remarks to Spiegelberg's article on the strategus Pamenches in *Zeitschrift*, LVII (ANCIENT EGYPT, 1923, I). The name Hierax supplies the clue to the correct understanding of the name  or , which should be read *Kópaξ* "raven," not Georgios. Unfortunately the Egyptian equivalent of this common Greek name, Korax, is not known; from the Coptic it must have been Pabōk, a name which occurs in Graeco-Roman times.

SPIEGELBERG, W.—*Zu dem Feuerbohre*. The author distinguishes between  *md(w)*, "fire stick," and  *dꜣ*, "fire stick apparatus." He considers that the use of  *md(w)* for *mdw* "word," "to speak," is due to sound transference.

SPIEGELBERG, W.— als *Determinativ*.  occurs in Pyramid 1215 c. as the determinative of a material in the word *dꜣj(w)*, which is elsewhere determined by . The passage in question is to be translated "she brings her material."

SPIEGELBERG, W.—*Der Architekt Bnr-mrw.t*. A stela now at Grenoble belonged to the architect *Bnr-mrw.t*. The same name and titles occur on other objects, all undated. A Karnak statue of the architect shows the head of Princess Merytamen peering out from his lap, and thus supplies the date, as the princess was a daughter of Thotmes III. With this dating agrees the representation on the upper semicircle of the stela of a side view of the sun disc with the eye of Horus—a representation which is particularly common in, though not (according to Spiegelberg) absolutely characteristic of, this reign.

SPIEGELBERG, W.—*Der heliopolitanische Hohepriester Chui*. Ebers Papyrus 63 names "the greatest of the seers," *Hwy.y*, as the discoverer of an eye-paint. The grave of this man has been found recently at Mâtârîje, along with graves of other Heliopolitan high priests of the Old Kingdom. For the name *Hwy.y* of the Ebers Papyrus is certainly identical with the name *Hwy* which was the "beautiful name" of the Heliopolitan high priest *Hw.n Hr*.

SPIEGELBERG, W.—*Die Datierung des Turiner Totenbuches*. The Turin Book of the Dead, published by Lepsius, has long been ascribed to Saïte times. Spiegelberg considers that it is Ptolemaic, on the evidence of  for *tꜣ* in the name of the owner's mother, and of a gloss in demotic which is undoubtedly Ptolemaic.

SPIEGELBERG, W.—*Eine Glocke mit demotischer Inschrift*. A bronze or copper bell found at El Hibe, 6 cm. in height, and about 100 grs. in weight, bears a demotic inscription which reads, "Sebek lord of *Tny* give life to *Dd-Hr*." The inscription belongs to the first century A.D. The belief that bells can ward off evil is well known. The inscription is worded exactly like those on bronze statuettes of gods and sacred animals, so that bells also seem to have been charms.

SPIEGELBERG, W.— als *Bezeichnung der Kite*. Spiegelberg quotes a passage from Horapollon in which occurs this writing for *Kd.t*, the Kite weight which was equivalent to a 2-drachma coin.

SPIEGELBERG, W.—Κομοῦπις. In this name is to be recognised the Egyptian name *Gm* = *w-Hpy*, "Apis has been found," which occurs frequently in Saïte times. The correct hieroglyphic writing is comparatively rare. The same construction seems to be found in Κομωῶρ, which Spiegelberg interprets as *Gm* = *w Hr*, "they have found Horus."

SPIEGELBERG, W.—*Der Gott Kolanthes (Klnḏ)*. One of the demotic inscriptions of Ptolemais (el-Menschije) mentions a god *Klnḏ-p₃-hrd*. The personal name Κο(λ)λάνδης must represent this god.

SPIEGELBERG, W.—*Der Gott Χεσπισίχης*. A Greek ostrakon in the Strasburg Museum bears the theophorous name Πετεχεσπισισίχης. The Egyptian prototype is the New Kingdom *Hnšw-p₃-r-skr-m-W₃.t*, "Khonsu, who is mighty in Thebes." Only *m-W₃.t* is missing, and this ending is occasionally omitted elsewhere.

SPIEGELBERG, W.—*Die Deutung von σβω bei Horapollo I 38*. Horapollo translates the Egyptian word σβῶ correctly as "teaching" (παδεία), and gives a second meaning, "abundant food" (πλήρης τροφή). Spiegelberg traces the latter rendering to *wšb*, *šb(w)* ^{c₃}.

SPIEGELBERG, W.—*Der stat. constr. 𐩱𐩺- vor folgenden Fragesätze*. Several examples are given of the use of this form of the verb 𐩱𐩺, "to find," meaning "to know," followed by an interrogative sentence.

SPIEGELBERG, W.—*Knm "einwickeln."* This word occurs in Pyramids 1197*b*, meaning "to wrap," "to swathe," "to clothe." The passage may be translated: "(This) N. found the gods wrapped (   ) in their clothes." The word is preserved in Coptic in 𐩪𐩺𐩱 𐩺𐩺 (S) 𐩪𐩺𐩱𐩺, 𐩺𐩺𐩱𐩺 (B) "to swathe," where 𐩪𐩺𐩱-, 𐩺𐩺𐩱- represents the old root *Knm*.

SPIEGELBERG, W.—*Der Ausdruck 𐩪𐩺𐩺 𐩺𐩺𐩺𐩺*. In Coptic, the expression 𐩪𐩺𐩺 𐩺𐩺𐩺𐩺 "month of days" may replace 𐩪.𐩺𐩺 "month." The same expression, *šbd n hrw*, is found in New Egyptian. The genitive *n hrw* follows the noun in other Coptic expressions, e.g., in "ten years," "yesterday" and "to-day."

SPIEGELBERG, W.—*Eine merkwürdige Fälschung*. This obviously faked votive tablet was evidently copied from a real one. The dedicator is the *stm^cš* *P₃-šd*, of whom there are several records, though the original of this particular fake is not known as yet.

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